

Chapter 6

Special Conditions

There are special considerations associated with operating in unique environments and climatic regions. Each geographic area, terrain type, unique terrain feature, climatic condition, and NBC defense posture has unique considerations that must be evaluated where NBC weapons may be employed.

- Defenders may use weapons of mass destruction to cause panic among the unprotected population, to impede movement of attacking forces, and to impose increased MOPP requirements against attacking elements
- Soldiers may be less inclined to fight in the presence of civilian NBC casualties, particularly in confined spaces and partially destroyed buildings
- NBC detection equipment value may be limited due to the speed and constant movement of forces
- Naturally occurring endemic diseases and vectors, which mimic biological agent use, increase as sanitation decreases
- Security is difficult. Defenders may not be readily identifiable from noncombatants

Commander's Considerations

- Soldiers must be psychologically prepared for large numbers of civilian casualties which will include women and children; prepare soldiers to carry out orders/missions when civilian population is used to impede movement; practice mission requirements while wearing MOPP gear

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- Prepare soldiers to continue the mission while working in confined spaces and to recognize hazards associated with damaged buildings and utilities
- Train soldiers in use of detection equipment, use of M8/M9 paper, and to recognize NBC employment in the absence of detection equipment
- Maintain current immunizations. Train soldiers in field sanitation and vector control

MILITARY OPERATIONS IN ARCTIC TERRAIN

Nuclear Weapons Impacts

- Light and heat will be reflected by the snow causing dazzle, snow blindness, and burn casualties long distances from ground zero
- Avalanches may be created as far as 30 kilometers from ground zero
- Heat from the initial effects will create quick thaws, which may affect vehicle and foot movement over roads, frozen streams and lakes, and marshy areas; refreezing may lock vehicles and equipment in place
- Blast effects will create projectiles from frozen material and snow storms picked up by the advancing shock wave

Chemical Weapons Impacts

- Agents picked up by individual clothing may not be detected and may not become an immediate hazard due to multi-layer clothing
- Wearing contaminated clothing into a heated shelter will volatilize the agent and create casualties
- In extreme cold temperatures, chemical agent effects are limited to on-target; there is minimal downwind hazard
- Frost will restrict the airflow through the air inlet valves of the protective mask
- Frostbite of the face may occur if the protective mask head harness is secured too tightly

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- Water-based decontaminants are less effective at temperatures near freezing

Biological Weapons Impacts

- Biological agents are less effective in cold temperatures
- Biological agents are more persistent in cold temperatures

Smoke Impacts

- White phosphorous (WP) cartridges get buried in deep snow, and WP often burns undetected in the snow
- WP smoke tends to pillar rather than disperse

Commander's Considerations

- Sunglasses provide some eye protection from reflected light
- Operations plans should include alternate routes if frozen and low areas become impassable. When possible, plan for and rehearse alternate routes and escape routes
- Practice decontamination and MOPP exchange as part of collective protection training; inspect mask inlet valves routinely for frost buildup, and brush to keep clear
- NBC awareness is key; biological agents may take hours to days to show symptoms
- Water-based decontaminants are less effective at temperatures near freezing. Alternate decontaminants must be considered (blown air, solvents)

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MILITARY OPERATIONS IN DESERT TERRAIN

- Day temperatures will be extremely high. Day/night temperatures vary greatly
 - During day temperature extremes, the soldier's ability to function effectively is severely limited. MOPP gear can cause a rapid buildup of body core temperature
 - Soldiers may be able to function for longer periods at night in MOPP gear before heat buildup becomes a factor, but dehydration remains a major concern, even at night
 - Chemical and biological agents will probably be employed more often during night because of more favorable meteorological conditions
 - Successful campaigns under NBC conditions may require a choice between lower levels of protection and accepting more chemical casualties, and fully protected troops with reduced efficiency and higher probability of numerous heat casualties
 - Nuclear hazard increases at night. Dazzle may be effective for up to 50 kilometers
 - Water consumption requirements will vary, but large quantities will be required
 - WP cartridges get buried in sand and are often ineffective in sandy or dune deserts
 - Convection currents and high winds in rocky plateau deserts tend to rapidly disperse smoke

Commander's Considerations

- Organize bulk of mission requirements for cooler periods of night to extend capabilities
 - Plan for light work and numerous work/rest cycles even in light work; make maximum use of shade and collective protection
 - Increase NBC awareness during night hours when the threat of NBC employment is greatest; security personnel in sleep and work areas should sound alarm in event of employment
 - Ensure soldiers cover their skin when not in MOPP gear and when wearing mask only; plan for increased casualties and medical treatment, increase medical screening to limit prolonged casualties

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- Enforce hydration while in MOPP gear
- Drink and eat from approved sources; desert water sources that have been tainted with NBC hazards may have local insect and animal life forms dead or dying nearby
 - Encourage reporting of even minor cuts, abrasions, or illness to medical personnel for immediate treatment
 - Plan how to provide water for decontamination, including dedicating transportation assets

MILITARY OPERATIONS IN JUNGLE TERRAIN

- Land navigation by foot is slow; foot travel is further degraded when wearing MOPP gear
 - When in MOPP gear, peripheral vision is reduced and forward vision may be limited to a few feet
 - The jungle canopy creates good overhead cover from aircraft spray; however, if the dense jungle foliage is contaminated, soldiers can easily pick up the contamination as they move through the area
 - Biological hazards maybe more difficult to identify
 - Minor sickness or injury may become serious
 - Thick vegetation prevents effective downwind travel of smoke

Commander's Considerations

- Plan for extra time when moving by foot when in MOPP gear
 - Heat stress is increased due to the high humidity; plan for relief from MOPP gear
 - Train soldiers to minimize physical contact with potentially contaminated vegetation
 - Medical personnel must provide immediate treatment for any sickness, illness, or small cuts or abrasions of the skin
 - Avoid taking positions near stagnant or slow-moving water and near decaying plant/animal matter

MILITARY OPERATIONS IN MOUNTAIN TERRAIN

- The concentration of units along narrow roads where no egress is possible may make them more vulnerable to NBC hazards. This is particularly true in narrow canyons or valleys where movement may be restricted and in staging areas at the base of mountains
 - Chemical agent vapors are heavier than air and will settle in valleys and depressions
 - MOPP gear reduces foot soldiers' ability to traverse mountain terrain off roads and off normal foot trails
 - Smoke tends to follow valleys, roads, and ravines and is effective in denying the enemy use of these narrow passages
 - Swirling winds make smoke difficult to adjust and maintain

Commander's Considerations

- Disperse if tactically possible; movement by several means and routes limits concentration of forces
 - Limit movement through valleys and depressions; move through rapidly when cleared
 - Limit off-road movement when in MOPP gear. Soldiers are less effective and the rugged mountain terrain is very hard on MOPP clothing and equipment

MILITARY OPERATIONS IN URBAN TERRAIN (MOUT)

- Enemy forces may use weapons of mass destruction to panic populations, to impede movement of attacking forces, and to impose increased MOPP requirements on attacking forces
 - Reduced sanitary conditions will increase the available growth medium for biological organisms and resultant probability that naturally occurring biological agents and vectors will increase the health risks to soldiers and noncombatants
 - Buildings may break up smoke streamers, reducing downwind coverage of smoke

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- Smoke tends to rise over water (e.g., ponds, lakes), garden plots, parks, and open expanses of concrete
- Smoke is very effective to protect from snipers, except burning rubble degrades screening efficiency

Commander's Considerations

- Use smoke to obscure build-up areas before you attempt to secure them
- Pay particular attention to personal hygiene and field sanitation in cities; be alert to covert dissemination of NBC hazards through water or sanitary systems

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